

**BEFORE THE GUAM PUBLIC UTILITIES COMMISSION**

IN THE MATTER OF:	)	GPA Docket 10-01
Guam Power Authority's Petition for	)	
Contract Review Approval of 2010 Bond	)	
Financed Projects	)	

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**PUC COUNSEL REPORT**

*Introduction*

On November 19, 2010 the Guam Power Authority [GPA] filed a Petition with the Guam Public Utilities Commission [PUC] for review and approval of certain 2010 bond projects.<sup>1</sup> This is the third request by GPA for approval of bond projects.<sup>2</sup> The projects for which review and approval by the PUC are now requested are generation projects for Cabras 1 & 2, and Cabras 3 & 4, at total cost of \$16,859,000.00. Approval is requested for the following projects:

GUAM POWER AUTHORITY  
 Generation Capital Improvement Projects  
 FY 2011 – FY 2014(x \$1,000)

Capital Improvement Project Name	Project Total	Unit
Provide Fire Protection for Transformers and Fire Detection System for Boiler Burner Area, Cabras Unit #2 Hydrogen and CO2 piping – Cabras 1&2	725	C12
Cabras 1&2 Facility Improvements - New Plant Maintenance Shop, Plant Paging System, A/C for Office and lab, New Chemical Storage Facility	1,288	C12
Replace Existing Yard Fire Hydrant System – Cabras 1 & 2	420	C12
Install Generator On-Line Monitoring System for Unit 1&2 and Provide Electrical Testing and Measuring Equipment	228	C12

<sup>1</sup> GPA Petition for Contract Review for Approval of 2010 Bond Projects, GPA Docket 10-01, filed November 19, 2010.

<sup>2</sup> See PUC Orders, GPA Docket 10-01, issued July 27, 2010, approving expenditures for the Smart Grid Project in the amount of \$3.277M and Transmission and Distribution Projects in the amount of \$34M.

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Waste Oil Facility Improvements - Cabras 1 & 2	150	C12
Cabras #2 Reheater Tubes Replacement	1,113	C12
Replace Cabras Unit #1 Feedwater Heater #2 and Unit #2 FWH #4	1,090	C12
Replace Cabras Unit #1 Instrument Air Compressor 1B & Cabras Unit #2 Service Air Compressor	265	C12
Cabras Unit #2 Heater Drain Pump & Motor Replacement	240	C12
Replace one (1) Boiler feed Pump Motor for Cabras Unit #1	275	C12
Replace one (1) Forced Draft Fan Motor for Cabras Unit #1	500	C12
Replace Service Water Cooler for Cabras Unit #1	500	C12
Replace Unit #1 Auxiliary Transformer - Cabras 1&2	500	C12
<b>CABRAS 1&amp;2 SUBTOTAL</b>	<b>7,069</b>	

<b>Capital Improvement Project Name</b>	<b>Project Total</b>	<b>Unit</b>
Cabras 3 & 4 Facility Improvements - New Storage Building, HVAC Replacement, Plant Security System, New Hydraulic Press for Waste Oil Recovery	1,060	C34
Fire Alarm / Suppression System Upgrade Phase 2 - Cabras 3&4	800	C34
Replace Battery Bank "A", "B" & "C" - Cabras 3&4	150	C34
Governor Control System Replacement - Cabras 3&4	600	C34
Homogenizer Replacement - Cabras 3&4	500	C34
Sea Water Travelling Screen A,B,C Replacement - Cabras 3 &4	1,200	C34
CEMS Replacement - Cabras 3&4	150	C34
Generator Protection Relay Panel Replacement Cabras 3&4	250	C34
Distributed Control System (DCS) Replacement - Cabras 3&4	1,200	C34
Turbochargers Replacement - Cabras 3&4	1,400	C34
Air Cooler 2 sets Replacement - Cabras 3&4	150	C34
Exhaust Gas Silencer Replacement - Cabras 3&4	150	C34
Fuel Oil Purifier Feed Pumps Replacement - Cabras 3&4	150	C34
Installation of Vent Fan for Turbochargers - Cabras 3&4	300	C34
Debris Filter Replacement - Cabras 3&4	250	C34

Cabras #3 Bearing Temperature Monitoring System	380	C34
CABRAS 3&4 TOTAL	8,790 <sup>3</sup>	

AUTOMATIC GENERATION CONTROL 1,000

### *Background*

On April 22, 2010, GPA filed its request with the PUC to issue GPA Revenue Bonds and Subordinate Revenue Bond Financing up to a limit of \$210 Million to pay for capital improvement projects and to refinance its existing debts.<sup>4</sup> On June 3, 2010, the PUC approved the 2010 GPA Revenue Bond and Subordinate Bond issuance.<sup>5</sup> Attached to GPA's request to issue Revenue Bonds were projects for Generation Improvements in the amount of \$16,859,000; these are the same generation projects for which GPA now seeks approval to expend bond funds in its present Petition.

### *Analysis*

GPA is required to obtain prior PUC approval of any expenditure of bond proceeds, either before procurement can begin on the projects or before such bond proceeds can be expended or committed to such projects.<sup>6</sup> Under its enabling statute, GPA has broad authority to "control, operate, improve, equip, maintain, repair, renew, replace, reconstruct, alter and insure the electric system..."<sup>7</sup>

In light of GPA's broad authority and mandate over the electric power system, management should be given discretion and latitude to pursue projects which it believes will be beneficial and necessary to the improvement of the power system. It has generally been accepted by the PUC that its review under the contract review protocol is one of "prudence": to insure that projects and procurements are reasonable and in the interest of rate payers. The Consolidated Commission on Utilities is

<sup>3</sup> Memorandum of Assistant General Manager, Operations to Staff Attorney, Control Review Justifications for Generation Projects (Attached to the Petition).

<sup>4</sup> GPA Petition for Contract Review to Authorize GPA to issue Guam Power Authority Revenue Bonds and Subordinate Revenue Bond Financing, GPA Docket 10-01, filed April 22, 2010.

<sup>5</sup> PUC Order Approving Revenue and Subordinate Revenue Bonds and Order Approving Long Term Debt, GPA Docket 10-01, issued June 3, 2010.

<sup>6</sup> GPA Order Approving Revenue Bonds and Subordinate Revenue Bonds, GPA Docket 10-01, issued June 3, 2010.

<sup>7</sup> 12 GCA §8104(11).

responsible for the management of GPA. Basic decisions as to which projects are necessary and beneficial, in the first instance, are for GPA management to decide.

Each of the thirty (30) projects for which GPA seeks approval is supported by detailed descriptions, justifications, consideration of alternatives, and cost-benefit analyses. In each case there is a positive cost benefit analysis, although some projects have a higher cost benefit ratio than others. However, in each case, there is sufficient justification for GPA to proceed with the projects, and to warrant PUC approval. All of the Projects should improve functioning and reliability of the Cabras plants and is therefore in the interest of GPA's rate payers.

#### Cabras 1 & 2 Capital Improvement Projects

Some of the more costly CIPs are the Facility Improvements, Reheater Tube Replacement, and Sea Water Heater Replacements. Facility improvements involve the construction of a new concrete plant maintenance shop, new concrete chemical storage warehouse building, the upgrading of the plant paging system, and installation of a new air conditioning system for the plant offices and laboratory. The facilities are necessary so that the plant maintenance crew can do its work efficiently and safely. The facility for storage of chemicals will allow GPA to meet its chemical storage requirements. Replacement of the paging system and installation of air conditioning is critical for unit operations.

The Unit #2 Re-heater Bank Materials have deteriorated and experienced major tube failures. This re-heater bank has been in service for more than 35 years. Replacement is necessary to maintain boiler efficiency and the availability of the unit. Without replacement, it is likely that reheater tube failures will occur at least twice a year.<sup>8</sup>

Certain Feed Water Heaters on Units 1 & 2 are "plugged" above accepted limits. Replacement of these feed water heaters is necessary to restore the operational safety, efficiency and availability of the heaters. Another project involves a fire protection system for the transformers and fire detection system for boiler burner areas of Cabras 1 & 2. Unless these improvements are implemented, equipment will be unprotected in the case of fire and continue to pose a threat for the safety of such equipment and personnel. A major fire could cause catastrophic damage and result in an interruption of service for a minimum of 270 calendar days.<sup>9</sup>

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<sup>8</sup> Project Description for Cabras Unit #2 Re-heater Tube Replacement, attached to the Petition.

<sup>9</sup> Project Description for Cabras 1 & 2 Fire Protection System for Transformers and Fire Detection System for Boiler Burner Area, attached to the Petition.

### Cabras 3&4 Capital Improvement Projects

Among the more expensive CIP projects are Turbo Chargers Replacement, Distributed Control System Replacement, Sea Water Travelling Screen Replacement, and Facility Improvements. The upgrade of the turbo chargers is designed to increase the units' efficiency rate. Replacement of the turbo chargers will allow the existing engine oil supply to be utilized without the need for a separate oil type at an additional O&M expense. Completion of this project will result in economic gain by improving unit efficiencies.<sup>10</sup>

The Distributed Control System Upgrade is designed to insure efficient operation of the engine and auxiliary equipment. It will handle unit monitoring, automatic operations, trending, and start-up & shut-down processes. Completion of the project will mitigate a potential unit shutdown resulting from loss of the DCS system.<sup>11</sup> The Sea Water Travelling Screen replacement is designed to insure the continuous operation of the sea water system. Installation of a new travelling screen will mitigate damages and the effect of corrosion. It will be composed of a complete stainless steel assembly. Installation will increase the reliability of the power plant by supplying continuous sea water to the exchanger without clogging the units.<sup>12</sup>

The Facility Improvements for Cabras 3 & 4 involve the construction of a new concrete storage building to accommodate consumables and parts, installation of a new Heating Ventilation and Air Conditioning System (to replace the existing deteriorated system), and installation of a security surveillance system to provide for plant safety. Construction of a new storage area will provide a secure area for storage. A new HVAC system will control temperatures in the power plant and protect electrical equipment. The surveillance system will also protect critical equipment and allow plant operators to closely monitor outside facilities.<sup>13</sup>

In general, all of the projects for which GPA seeks approval are designed to increase reliability and efficiency of the Cabras Plant Operations. These bond projects appear to be reasonable, prudent and necessary. There is also a project to provide Automatic Generation Control to incorporate the controls of the GPA generation units at a central location and allow the generation units to respond in concert to any system

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<sup>10</sup> Project Description for Cabras 3 & 4 Turbo Chargers Replacement, attached to the Petition.

<sup>11</sup> Project Description for Cabras 3 & 4 Distributed Control System (DCS) Upgrade, attached to the Petition.

<sup>12</sup> Project Description for Cabras 3 & 4 Sea Water Travelling Screens, attached to Petition.

<sup>13</sup> Project Description for Cabras 3 & 4 Facility Improvements, attached to Petition.

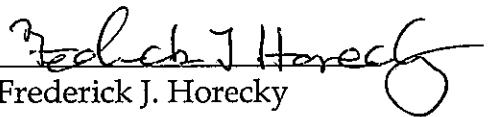
disturbances or changes in load or generation availability. This System would monitor and control power for the base load generators (Cabras 1 & 2, Cabras 3 & 4, MEC 8 & 9, Tanguisson 1 & 2, and TEMES CT) in the island wide power system. Installation of an AGC should improve the performance of the GPA system, decrease the chance of a total system collapse, and mitigate load shedding following the loss of generation units.<sup>14</sup>

On November 9, 2010, the Consolidated Commission on Utilities determined as follows: "After careful review of the attached documents, the Consolidated Commission on Utilities finds the capital improvement projects listed to be reasonable, prudent, and necessary for the use of the 2010 bond funds."<sup>15</sup> The projects referenced are the same 31 projects for which GPA seeks approval in its pending Petition before the PUC.

*Recommendation*

For the reasons set forth herein, Counsel recommends that the PUC approve all of the thirty (30) 2010 bond projects, as requested in the Petition, for the amounts requested. A draft Order is submitted herewith for the consideration of the Commissioners.

Dated this 6<sup>th</sup> day of December, 2010.

  
Frederick J. Horecky  
PUC Legal Counsel

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<sup>14</sup> Project Description for Automatic Generation Control, attached to the Petition.

<sup>15</sup> CCU Resolution No. 2010-63, adopted November 9, 2010.